



July 25, 2005

Project No. 421

Ms. Joan Fleck  
Regional Water Quality Control Board  
North Coast Region  
5550 Skylane Boulevard, Suite A  
Santa Rosa, California 95403

**Groundwater Monitoring Results - January 2005**

**Former Martinelli Chevron Station  
4180 Montgomery Drive  
Santa Rosa, California**

Dear Ms. Fleck:

This report presents the results of groundwater monitoring conducted by Brunsing Associates, Inc. (BAI) at 4180 Montgomery Drive, Santa Rosa, California (Plate 1). The groundwater monitoring was performed on January 27, 2005 and was performed in response to a request by the Regional Water Quality Control Board (RWQCB).

**Site History**

The site has been used as a gasoline service station since at least 1956. In approximately 1956, a 550-gallon waste oil underground storage tank (UST) was installed at the site. In December 1992, a crack formed on the top of the UST when the tank fittings were being tightened during installation of a monitoring system. The tank was drained within two hours and use of the tank was discontinued. It is our understanding that, prior to the installation of the monitoring system, tank testing indicated that the tank was tight from 1956 to 1992.

In August 1993, the UST was removed by Martinelli Excavating. BAI staff collected one soil sample from the bottom of the excavation, at 8 feet below ground surface (bgs). The soil sample reportedly contained total petroleum hydrocarbons (TPH) as gasoline and TPH as motor oil at 40 and 20,000 milligrams per kilogram (mg/kg), respectively. The sample also reportedly contained benzene at 8.0 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ );

toluene at 57 µg/kg; xylenes at 190 µg/kg; tetrachloroethene (PCE) at 4,500 µg/kg; and 1,1,1-trichloroethane at 290 µg/kg, in addition to other solvents.

In September 1993, the tank pit was over-excavated, down to 10 feet bgs (Plate 2). No additional soil was removed from the sidewalls except for soil that caved in during excavation. An additional soil sample was collected from the bottom of the excavation. The sample reportedly contained TPH as motor oil at 920 mg/kg and PCE at 45 µg/kg. No soil samples were collected from the excavation sidewalls.

A field investigation was performed by BAI on June 22, 1995 which included collecting soil samples from four borings and collecting a groundwater sample from the boring located in the center of the excavation. TPH as gasoline, TPH as diesel, TPH as motor oil, halogenated volatile organics by EPA Test Method 8010, and benzene, toluene, ethylbenzene, and xylenes (BTEX) were not reported in the soil samples collected from borings B-1, B-3, and B-4 and the soil sample collected from boring B-2 at 20.5 feet bgs. The soil sample collected from boring B-2 at a depth of 15.5 feet bgs contained TPH as motor oil and PCE concentrations at 5,000 mg/kg and 290 µg/kg, respectively.

The groundwater sample collected from boring B-2 contained TPH as motor oil at 3.8 milligrams per liter (mg/l). PCE and 1,1,1-trichloroethane concentrations of 290 micrograms per liter (µg/l) and 1 µg/l, respectively, were also reported in the groundwater sample collected from boring B-2.

On August 29, 1997, BAI supervised the installation of monitoring wells MW-1, MW-2, and MW-3 (Plate 2). Soil samples collected for chemical analyses from depths of 15.5 feet bgs from each boring did not contain any of the analytes. The results of subsequent groundwater monitoring including collection of groundwater samples and water-level measurements are summarized in Tables 1 and 2. Well construction details are summarized in Table 3.

In December 1998, three gasoline USTs located east of the former waste oil tank were removed from the site. The tank removal soil sampling indicated that the tanks did not leak and an investigation of the three USTs was not necessary.

Additional over-excavation activities in the area of the former waste oil tank were initiated and completed on September 10, 2001 by Martinelli Excavating. The final dimensions of the excavation were approximately 14 feet by 14 feet by 19 feet deep. Groundwater was not encountered during excavation. During the over-excavation



activities, four sidewall samples and one bottom soil sample were collected for analyses. The over-excavation activities generated a total of approximately 57.6 tons of contaminated soil, which was subsequently hauled to Forward Landfill in Manteca, California for disposal. The bottom floor soil sample collected from a depth of approximately 19 feet bgs contained TPH as motor oil at a concentration of 28 mg/kg. The north and east sidewall samples collected from depths of approximately 12 feet bgs contained TPH as motor oil at 110 and 250 mg/kg, respectively. TPH as gasoline, petroleum oxygenates and lead scavengers, and volatile organic compounds were not detected in any of the samples.

On September 20 and 21, 2001, 4 soil borings were drilled and one groundwater monitoring well (MW-4) was installed to assess the extent of contamination. No groundwater was encountered during drilling and the three soil samples collected from the borings did not contain any of the parameters. A report prepared by BAI dated October 18, 2001 on the results of the drilling and sampling activities, including additional groundwater monitoring results, was submitted to the RWQCB.

### **Water Level Measurements**

Depths to groundwater were measured in wells MW-1, MW-2, MW-3, and MW-4 on January 27, 2005 by BAI personnel. The cumulative depths to groundwater and groundwater elevations are included in Table 1. Based on groundwater elevation data for wells MW-2, MW-3, and MW-4, the groundwater flow direction was to the northeast with a gradient of 0.005 foot per foot. The groundwater monitoring field report and the monitoring well sampling protocol are included in Appendix A.

### **Groundwater Monitoring Results**

Groundwater samples were collected on January 27, 2005 from monitoring wells MW-1, MW-2, MW-3, and MW-4. The groundwater samples were submitted to BACE Analytical and Field Services (BAFS) laboratory for analyses. The groundwater samples were analyzed for volatile organic compounds, including petroleum oxygenates and lead scavengers, by EPA Test Method 8260. The analytical laboratory report is presented in Appendix B.

PCE was detected in the groundwater samples collected from wells MW-1, MW-2, MW-3, and MW-4 at a concentration of 121 µg/l, 73.0 µg/l, 212 µg/l, and 59.2 µg/l. The PCE



Ms. Joan Fleck  
July 25, 2005  
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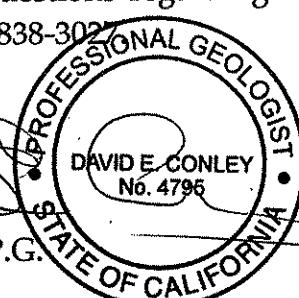
concentration reported in the January 2005 samples were the highest concentrations reported to date in wells MW-1, MW-2, and MW-3.

An additional investigation was scheduled for the site to commence in July 2003, pending approval of offsite property owners. However, as offsite owner approval has not been received, the drilling at the site has been postponed. The scope of work to be performed is outlined in BAI's Soil and Groundwater Investigation workplan, dated January 13, 2003.

BAI recommends implementing the scope of work in the January 13, 2003 workplan after offsite owner approval has been received, and water levels rise sufficiently so that the proposed borings are likely to encounter groundwater. The next groundwater sampling event was performed on April 20, 2005.

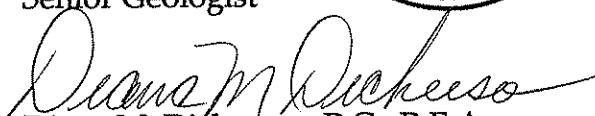
If you have any questions regarding this report, please contact David Conley or Diana Dickerson at (707) 838-3022.

Sincerely,



DAVID E. CONLEY  
No. 4796

DAVID E. CONLEY, P.G.  
Senior Geologist



Diana M. Dickerson, P.G., R.E.A.  
Principal Geologist

cc: Mr. Dean Martinelli  
Ms. Betty Martinelli

Attachments:

- Table 1. Cumulative Groundwater Elevation Data
- Table 2. Cumulative Groundwater Chemistry Data
- Table 3. Well Construction Details
- Plate 1. Site Vicinity Map
- Plate 2. Site Map
- Plate 3. Groundwater Elevation Map, January 27, 2005
- Appendix A. Groundwater Monitoring Protocol and Field Reports
- Appendix B. Analytical Laboratory Report



## **TABLES**



**Table 1. Cumulative Groundwater Elevation Data**

4180 Montgomery Drive

Santa Rosa, California

Monitoring Well Number	Measurement Date	Top of Casing Elevation (feet above MSL)	Depth to Water (in feet)	Groundwater Elevation (feet above MSL)	Groundwater Flow Direction and Gradient (foot/foot)
MW-1	12/19/97	234.13	22.36	211.77	west 0.005
MW-2	12/19/97	233.67	21.79	211.88	
MW-3	12/19/97	234.19	22.31	211.88	
MW-1	1/30/98	234.13	16.46	217.67	west 0.002
MW-2	1/30/98	233.67	15.95	217.72	
MW-3	1/30/98	234.19	16.48	217.71	
MW-1	2/25/98	234.13	15.47	218.66	east 0.087
MW-2	2/25/98	233.67	16.93	216.74	
MW-3	2/25/98	234.19	17.36	216.83	
MW-1	3/30/98	234.13	17.73	216.40	northeast 0.005
MW-2	3/30/98	233.67	17.44	216.23	
MW-3	3/30/98	234.19	17.77	216.42	
MW-1	4/17/98	234.13	18.99	215.14	north-northeast 0.002
MW-2	4/17/98	233.67	18.60	215.07	
MW-3	4/17/98	234.19	19.03	215.16	
MW-1	5/6/98	234.13	20.35	213.78	north-northeast 0.0008
MW-2	5/6/98	233.67	19.92	213.75	
MW-3	5/6/98	234.19	20.40	213.79	
MW-1	6/18/98	234.13	21.73	212.40	northwest 0.0004
MW-2	6/18/98	233.67	21.27	212.40	
MW-3	6/18/98	234.19	21.78	212.41	
MW-1	7/9/98	234.13	22.93	211.20	northwest 0.001
MW-2	7/9/98	233.67	22.47	211.20	
MW-3	7/9/98	234.19	22.96	211.23	
MW-1	8/7/98	234.13	24.26	209.87	northwest 0.006
MW-2	8/7/98	233.67	23.79	209.88	
MW-3	8/7/98	234.19	24.16	210.03	
MW-1	9/8/98	234.13	25.43	208.70	--
MW-2	9/8/98	233.67	24.95	208.72	
MW-3	9/8/98	234.19	Dry	--	
MW-1	10/6/98	234.13	26.17	207.96	--
MW-2	10/6/98	233.67	25.68	207.99	
MW-3	10/6/98	234.19	Dry	--	
MW-1	3/16/01	234.13	20.12	214.01	northeast 0.004
MW-2	3/16/01	233.67	19.81	213.86	
MW-3	3/16/01	234.19	20.21	213.98	



**Table 1. Cumulative Groundwater Elevation Data**  
 4180 Montgomery Drive  
 Santa Rosa, California

Monitoring Well Number	Measurement Date	Top of Casing Elevation (feet above MSL)	Depth to Water (in feet)	Groundwater Elevation (feet above MSL)	Groundwater Flow Direction and Gradient (foot/foot)
MW-1	9/13/01	234.13	27.20	206.93	--
MW-2	9/13/01	233.67	27.57	206.10	
MW-3	9/13/01	234.19	Dry	--	
MW-1	1/22/02	234.13	17.35	216.78	north-northwest 0.005
MW-2	1/22/02	233.67	17.07	216.60	
MW-3	1/22/02	234.19	17.36	216.83	
MW-4	1/22/02	233.92	17.55	216.37	
MW-1	12/13/02	234.13	26.43	207.70	west northwest 0.007
MW-2	12/13/02	233.67	26.21	207.46	
MW-3	12/13/02	234.19	Dry	--	
MW-4	12/13/02	233.92	26.6	207.32	
MW-1	3/21/03	234.13	21.18	212.95	--
MW-2	3/21/03	233.67	20.71	212.96	
MW-3	3/21/03	234.19	21.22	212.97	
MW-4	3/21/03	233.92	20.97	212.95	
MW-1	6/12/03	234.13	23.45	210.68	--
MW-2	6/12/03	233.67	22.98	210.69	
MW-3	6/12/03	234.19	23.49	210.70	
MW-4	6/12/03	233.92	23.23	210.69	
MW-1	9/9/03	234.13	27.00	207.13*	--
MW-2	9/9/03	233.67	26.84	206.83	
MW-3	9/9/03	234.19	Dry	Dry	
MW-4	9/9/03	233.92	26.60	207.32*	
MW-1	3/9/04	234.13	17.53	216.60	--
MW-2	3/9/04	233.67	17.13	216.54	
MW-3	3/9/04	234.19	17.54	216.65	
MW-4	3/9/04	233.92	17.46	216.46	
MW-1	1/27/05	234.13	19.71	214.42	northwest 0.005
MW-2	1/27/05	233.67	19.45	214.22	
MW-3	1/27/05	234.19	19.80	214.39	
MW-4	1/27/05	233.92	20.00	213.92	

MSL = Mean Sea Level.

-- = Groundwater elevation, flow or gradient not calculated due to insufficient data, or elevation differences near standard range of measuring error (0.03 feet).

\* water level near bottom of well may not be representative of formation water.





**Table 2. Cumulative Groundwater Chemistry Data**  
**4180 Montgomery Drive**  
**Santa Rosa, California**

Monitoring Well Number	Sampling Date	TPH as Gasoline (mg/l)	TPH as Diesel (mg/l)	TPH as Motor Oil (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (3) (µg/l)	Tetrachloroethene (3) (µg/l)
MW-1	12/19/97	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<5.0 (1)	50 (2)
MW-1	3/30/98	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<2.0	26 (2)
MW-1	6/18/98	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<5.0 (1)	50 (2)
MW-1	9/8/98	NA	NA	NA	NA	NA	NA	NA	NA	39 (2)
MW-1	3/16/01	<0.05	<0.05	NA	<0.50	<0.50	<0.50	<0.50	<1.0	75
MW-1	9/13/01	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<5.00	9.32
MW-1	1/22/02	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	18.8
MW-1	12/13/02	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	36.3
MW-1	3/21/03	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	74.1
MW-1	6/12/03	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	60.6
MW-1	3/9/04	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	NA
MW-1	1/27/05	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	121
MW-2	12/19/97	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<5.0 (1)	50 (2)
MW-2	3/30/98	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<2.0	32 (2)
MW-2	6/18/98	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<5.0 (1)	18 (2)
MW-2	9/8/98	NA	NA	NA	NA	NA	NA	NA	NA	59 (2)
MW-2	3/16/01	<0.05	<0.05	NA	<0.50	<0.50	<0.50	<0.50	<0.50	56
MW-2	9/13/01	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	40.2
MW-2	1/22/02	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	47.6
MW-2	12/13/02	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	58.8
MW-2	3/21/03	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	64.8
MW-2	6/12/03	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	45.1
MW-2	9/9/03	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	45.7
MW-2	3/9/03	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	NA
MW-2	1/27/05	<0.050	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	73.0



**Table 2. Cumulative Groundwater Chemistry Data**  
 4180 Montgomery Drive  
 Santa Rosa, California

Monitoring Well Number	Sampling Date	TPH as Gasoline (mg/l)	TPH as Diesel (mg/l)	TPH as Motor Oil (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	MTBE (3) (µg/l)	Tetrachloroethene (3) (µg/l)
MW-3	12/19/97	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<5.0 (1)	6.3 (2)
MW-3	3/30/98	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<2.0	39 (2)
MW-3	6/18/98	<0.05	<0.05	<0.20	<0.50	<0.50	<0.50	<0.50	<5.0 (1)	18 (2)
MW-3	9/8/98	NA	NA	NS	NS	NS	NS	NS	NS	NS
MW-3	3/16/01	<0.05	<0.05	NA	<0.50	<0.50	<0.50	<0.50	<2.5	91
MW-3	9/13/01	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	1/22/02	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	18.5
MW-3	3/21/03	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	20.2
MW-3	6/12/03	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	15.5
MW-3	3/9/04	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	NA
MW-3	1/27/05	<0.050	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	21.2
MW-4	1/22/02	<0.05	<0.05	<0.25	<0.50	<0.50	<0.50	<0.50	<1.00	33.5
MW-4	3/21/03	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	41.4
MW-4	6/12/03	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	72.7
MW-4	3/9/04	<0.05	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	NA
MW-4	1/27/05	<0.050	NA	NA	<0.50	<0.50	<0.50	<0.50	<1.00	59.2

mg/l = milligrams per liter.

µg/l = micrograms per liter.

< = indicates not detected at given laboratory reporting limit.

NA = Not analyzed.

NS = Not sampled.

(1) = Analyses performed using EPA Test Method 8020.

(2) = Analyses performed using EPA Test Method 8010; other volatile organic compounds were not detected.

(3) = Analyses performed using EPA Test Method 8260 unless specified; other petroleum oxygenates and volatile organic compounds were not detected.

Dichlorodifluoromethane reported at 1.3 µg/l by EPA Test Method 8260 in the sample collected from well MW-2 on March 16, 2001.

## **PLATES**





APPROXIMATE SCALE  
(Feet)

0 2200 4400

REFERENCE: Thomas Brothers Guide, Sonoma County, 1992

PROJECT NO.: 421		
DRAWN BY:	LM	1/12/95
CHECKED BY:	JTH	2/24
APPROVED BY:	DMD	9/2/95
REVISED:		

**BACE Environmental**  
A Division Of  
**Brunsing Associates, Inc.**

PLATE 1  
**SITE VICINITY MAP**  
4180 Montgomery Drive  
Santa Rosa, California

Sidewalk

## MONTGOMERY DRIVE

Sidewalk

B-1

B-3

B-2

WALGREENS  
PARKING AREA

Approximate property boundary

Service Station  
Building

Canopy

MW-4

Landscaped area

MW-2

B-3

B-1

Canopy

MW-1

B-3

B-4

MW-3

Sidewalk

SUMMERFIELD ROAD

### Legend

MW-4 Monitoring well location and number

B-4 Soil boring location and number - Drilled 2001

B-4 Soil boring location and number - Drilled 1995



APPROXIMATE SCALE (FEET)



Brsning Associates, Inc.  
5468 Skylane Blvd., Suite 201  
Santa Rosa, California 95403  
Tel: (707) 838-3027

Job No.: 421

Appr.:

Date: 7/22/05

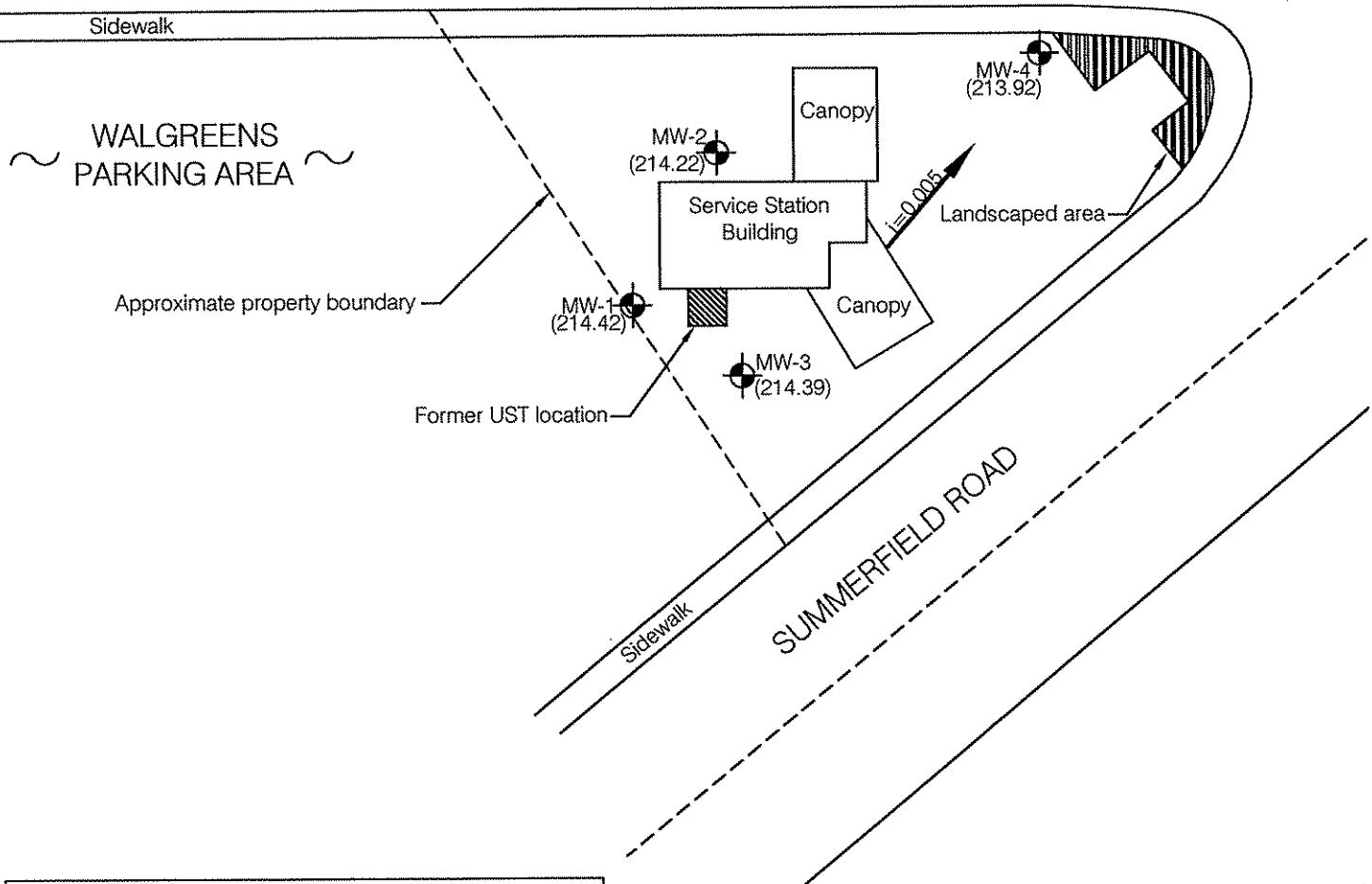
SITE MAP  
MARTINELLI  
4180 Montgomery Drive  
Santa Rosa, California

PLATE

2

Sidewalk

## MONTGOMERY DRIVE



### Legend

- MW-4 Monitoring well location and number
- (214.44) Groundwater elevation in feet above mean sea level
- i=0.005 Groundwater flow direction with gradient (i)
- Groundwater flow direction calculated using data from wells MW-2, MW-3, and MW-4



APPROXIMATE SCALE (FEET)



Brunsing Associates, Inc.  
5468 Skylane Blvd., Suite 201  
Santa Rosa, California 95403  
Tel: (707) 838-3027

Job No.: 421  
Appr.:  
Date: 7/22/05

### GROUNDWATER ELEVATION MAP

JANUARY 27, 2005

MARTINELLI  
4180 Montgomery Drive  
Santa Rosa, California

PLATE

3

**APPENDIX A**  
**Groundwater Monitoring Protocol and Field Reports**



## **Groundwater Sampling Protocol**

### **Monitoring Wells**

Prior to purging a monitoring well, groundwater levels are measured with a Solinst electric depth measurement device, or an interface probe, in all wells that are to be measured. At sites where petroleum hydrocarbons are possible contaminants, the well is checked for floating product using a clear bailer, a steel tape with water/oil paste, or an interface probe, during the initial sampling round. If floating product is measured during the initial sampling round or noted during subsequent sampling rounds, floating product measurements are continued.

After the water level and floating product measurements are complete, the monitoring well is purged until a minimum of three casing volumes of water are removed, water is relatively clear of sediment, and pH, conductivity, and temperature measurements of the water become relatively stable. If the well is purged dry, groundwater samples are collected after the water level in the well recovers to at least 80 percent of the original water column measured in the well prior to sampling, or following a maximum recovery period of two hours. The well is purged using a factory-sealed, disposable, polyethylene bailer, a four-inch diameter submersible Grundfos pump, a two-inch diameter ES-40 purge pump, or a peristaltic pump. The purge water is stored on-site in clean, 55-gallon drums.

A groundwater sample is collected from each monitoring well following re-equilibration of the well after purging. The groundwater sample is collected using a factory-sealed disposable, polyethylene bailer with a sampling port, or a factory-sealed Teflon bailer. A factory provided attachment designed for use with volatile organic compounds (VOCs) is attached to the polyethylene bailer sampling port when collecting samples to be analyzed for VOCs. The groundwater sample is transferred from the bailer into sample container(s) that are obtained directly from the analytical laboratory.

The sample container(s) is labeled with a self-adhesive tag. The following information is included on the tag:

- Project number
- Sample number
- Date and time sample is collected
- Initials of sample collector(s).

Individual log sheets are maintained throughout the sampling operations. The following information is recorded:



- Sample number
- Date and time well sampled and purged
- Sampling location
- Types of sampling equipment used
- Name of sampler(s)
- Volume of water purged.

Following collection of the groundwater sample, the sample is immediately stored on blue ice in an appropriate container. A chain-of-custody form is completed with the following information:

- Date the sample was collected
- Sample number and the number of containers
- Analyses required
- Remarks including preservatives added and any special conditions.

The original copy of the chain-of-custody form accompanies the sample containers to a California-certified laboratory. A copy is retained by BAI and placed in company files.

Reusable sampling equipment including thermometers, pH electrodes, and conductivity probes are cleaned both before and after their use at the site. The following cleaning procedures are used:

- Wash with a potable water and detergent solution or other solutions deemed appropriate
- Rinse with potable water
- Double-rinse with organic-free or deionized water
- Package and seal equipment in plastic bags or other appropriate containers to prevent contact with solvents, dust, or other contaminants.

In addition, the pumps are cleaned by pumping a potable water and detergent solution and deionized water through the system. Cleaning solutions are contained on-site in clean 55-gallon drums.

### **Domestic and Irrigation Wells**

Groundwater samples collected from domestic or irrigation wells are collected from the spigot that is the closest to the well. Prior to collecting the sample, the spigot is allowed to flow for at least 5 minutes to purge the well. The sample is then collected directly into laboratory-supplied containers, sealed, labeled, and stored on blue ice in an appropriate container, as described above. A chain-of-custody form is completed and submitted with the samples to the analytical laboratory.



**APPENDIX B**  
**Analytical Laboratory Reports**



UST       Yes  
 Fund Site:       No

## FIELD REPORT

PAGE 1 OF 6

JOB NO: 421 PROJECT: 4180 Montgomery Drive ( Martinelli )

INITIAL: CDS SUBJECT: Groundwater Sampling

DATE: 1-27-05 PROJECT PHASE NUMBER: 04

VEHICLE USED: FORD F-150

Total Time: 7.00End. Mileage: 7635Beg. Mileage: 7607TOTAL MILEAGE: 28

## TIME      DESCRIPTION OF WORK AND CONVERSATION RECORD:

0603 LOAD EQUIPMENT AND SUPPLIES

0649 TO SITE

0717 ARRIVE AT SITE, SET-UP FOR GROUNDWATER SAMPLING.

MEASURED TWO ROUNDS OF DISTANCE TO WATER AT WELLS

MW-1, MW-2, MW-3 AND MW-4.

PERFORMED SAMPLING AT WELLS MW-1, MW-2, MW-3 AND MW-4.

STORED PURGE WATER IN A DRUM INSIDE THE REFUSE ENCLOSURE.

CLOSED ALL WELLS AND MONUMENTS.

DECON SAMPLING EQUIPMENT.

LOAD EQUIPMENT AND SUPPLIES.

COMPLETED FIELD NOTES AND LOGGED ALL SAMPLES ON A

CHAIN OF CUSTODY.

1143 LEAVE SITE

1207 ARRIVED AT OFFICE, SUBMITTED SAMPLES FOR ANALYSIS.

UNLOAD EQUIPMENT AND SUPPLIES.

1249 FINISHED WITH WORK.

DRUM COUNT:

Water = 1

Devlpmt Water =

Soil =

Decon Water =





# WELL SAMPLING

SHEET 3 OF 6

PROJECT: 4180 Montgomery Drive ( Martinelli )

PROJECT NUMBER: 421

WELL # MW-1 PRECIP. IN LAST 5 DAYS: — WIND ✓

DATE: 1-27-05

STARTING TIME: 0943 FINISHING TIME: 1026

INITIALS: CDS

## CALCULATION OF PURGE VOLUME

2" WELL DEPTH:  - D.T.W.  = H2O COLUMN:  X 0.5 =

G  
A  
L  
L  
O  
N  
S

4" WELL DEPTH:  - D.T.W.  = H2O COLUMN:  X 2.0 =

THEREFORE TOTAL PURGE GALLONS EQUALS

## FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0952	1	7.27	432	19.0	Cloudy Brown, No odor, Sandy
0955	2.5	6.90	436	19.1	Cloudy Brown, No odor, Sandy
1001	4	6.79	433	20.2	Cloudy Brown, No odor, Sandy

SAMPLING: SAMPLE ANALYSIS:

SAMPLE TIME:  DID WELL GO DRY?

WATER LEVELS:		NOTES:
TIME	D.T.W.	
1016	19.80	

## WELL SAMPLING

SHEET 4 OF 6

PROJECT: 4180 Montgomery Drive ( Martinelli )

PROJECT NUMBER: 421

WELL # MW-2 PRECIP. IN LAST 5 DAYS: — WIND ✓

DATE: 1-27-05

STARTING TIME: 0823 FINISHING TIME: 0906

INITIALS: LOS

CALCULATION OF PURGE VOLUME2" WELL DEPTH:  - D.T.W.  = H2O COLUMN:  X 0.5 = G  
A  
L  
L  
O  
N  
S4" WELL DEPTH:  - D.T.W.  = H2O COLUMN:  X 2.0 = 

THEREFORE TOTAL PURGE GALLONS EQUALS

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0837	1	7.15	422	18.4	Cloudy Brown, no odor, SILTY
0844	3	6.83	426	19.1	Turbid Brown, no odor, SILTY
0848	5	6.77	422	19.6	Turbid Brown, no odor, SILTY

SAMPLING: SAMPLE ANALYSIS: TPH-Gas BTEX (8021)

SAMPLE TIME:  DID WELL GO DRY? 

WATER LEVELS:		NOTES:
TIME	D.T.W.	
0761	19.49	

## WELL SAMPLING

SHEET 5 OF 6

PROJECT: 4180 Montgomery Drive ( Martinelli )

PROJECT NUMBER: 421

WELL # MW-3 PRECIP. IN LAST 5 DAYS: — WIND ✓

DATE: 1-27-05

STARTING TIME: 0745 FINISHING TIME: 0822

INITIALS: GDS

## CALCULATION OF PURGE VOLUME

2" WELL DEPTH: 25.00 - D.T.W. 19.80 = H2O COLUMN: 5.20 X 0.5 = 2.60

G  
A  
L  
L  
O  
N  
S

4" WELL DEPTH: [ ] - D.T.W. [ ] = H2O COLUMN: [ ] X 2.0 = [ ]

THEREFORE TOTAL PURGE GALLONS EQUALS [ ]

## FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0757	1	6.83	472	19.2	TURBID Brown, no odor, SILTY
0800	2	6.68	461	19.8	CLOUDY Brown, no odor, SILTY
0803	3	6.69	452	20.4	CLOUDY Brown, no odor, SILTY

SAMPLING: SAMPLE ANALYSIS: TPH-Gas BTEX (8021) [ ] [ ]

SAMPLE TIME: 0807 DID WELL GO DRY? No

WATER LEVELS:		NOTES:
TIME	D.T.W.	
0812	19.86	

## WELL SAMPLING

SHEET 6 OF 6

PROJECT: 4180 Montgomery Drive ( Martinelli )

PROJECT NUMBER: 421

WELL # MW-4 PRECIP. IN LAST 5 DAYS:  WIND 

DATE: 1-27-05

STARTING TIME: 0907 FINISHING TIME: 0942

INITIALS: CPS

CALCULATION OF PURGE VOLUME2" WELL DEPTH:  - D.T.W.  = H2O COLUMN:  X 0.5 =  GALLONS4" WELL DEPTH:  - D.T.W.  = H2O COLUMN:  X 2.0 =  GALLONS

THEREFORE TOTAL PURGE GALLONS EQUALS

 GALLONSFIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0915	1	6.91	413	18.0	Cloudy Brown, no odor, SILTY
0918	2.5	6.77	415	18.9	Cloudy Brown, no odor, SILTY
0923	4	6.76	413	19.4	Cloudy Brown, no odor, SILTY

SAMPLING: SAMPLE ANALYSIS: TPH-Gas  EPA-8260 SAMPLE TIME:  DID WELL GO DRY? 

WATER LEVELS:		NOTES:
TIME	D.T.W.	
0938	20.03	

**APPENDIX B**  
**Analytical Laboratory Reports**

## Laboratory Report Project Overview

EDF 1.2a

Laboratory:  
Bace Analytical, Windsor, CA  
Lab Report Number:  
4522R  
Project Name:  
4180 MONTGOMERY DRIVE  
Work Order Number:  
421  
Control Sheet Number:  
NA

Laboratory:  
Bace Analytical, Windsor, CA  
Lab Report Number:  
4522R  
Project Name:  
4180 MONTGOMERY DRIVE  
Work Order Number:  
421  
Control Sheet Number:  
NA

## Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcde	Logdate	Extdate	Anadate	Lablotid	Run Sub
4522R	MW-1	4522R-1	V/G	CS	8260TPH	SW5030B	01/27/200	01/28/200	01/28/200	20050128C	14
4522R	MW-1	4522R-1	V/G	CS	SW8260B	SW5030B	5	5	5		
4522R	MW-2	4522R-2	V/G	CS	8260TPH	SW5030B	01/27/200	01/28/200	01/28/200	20050128C	14
4522R	MW-2	4522R-2	V/G	CS	SW8260B	SW5030B	5	5	5		
4522R	MW-3	4522R-3	V/G	CS	8260TPH	SW5030B	01/27/200	01/28/200	01/28/200	20050128C	15
4522R	MW-3	4522R-3	V/G	CS	SW8260B	SW5030B	5	5	5		
4522R	MW-4	4522R-4	V/G	CS	8260TPH	SW5030B	01/27/200	01/28/200	01/28/200	20050128C	16
4522R	MW-4	4522R-4	V/G	CS	SW8260B	SW5030B	5	5	5		
4522R	4519-12	4519-12	V/G	NC	8260TPH	SW5030B	/ /	01/28/200	01/28/200	20050128C	17
4522R	4519-12	4519-12	V/G	NC	SW8260B	SW5030B	/ /	01/28/200	01/28/200	20050128C	17
4522RMB	WG	LB1	8260TPH	SW5030B	/ /	04/28/200	04/28/200	04/28/200	20050128C	7	
4522RMB	WG	LB1	SW8260B	SW5030B	/ /	01/28/200	01/28/200	01/28/200	20050128C	1	
4522RMS	WG	MS1	8260TPH	SW5030B	/ /	01/28/200	01/28/200	01/28/200	20050128C	11	
4522RMS	WG	MS1	SW8260B	SW5030B	/ /	01/28/200	01/28/200	01/28/200	20050128C	8	
4522RSD	WG	SD1	8260TPH	SW5030B	/ /	01/28/200	01/28/200	01/28/200	20050128C	12	
4522RSD	WG	SD1	SW8260B	SW5030B	/ /	01/28/200	01/28/200	01/28/200	20050128C	9	

## Case Narrative

Bace Analytical, Windsor, CA

Report Date: 07/09/2005  
Report Number: 4522R

Project: 4180 MONTGOMERY DRIVE  
Order #: 421

As per client request of 7/1/05 the analytical data for laboratory report number 4522 has been re-analyzed to include the full list of analytes for EPA Method 8260B. The data analysis was accomplished by means of Enviroquant GC/MS software using a valid full list calibration curve in use at the time of actual sample analysis. The initial laboratory report for this site was issued on 5/9/2005 and included results for the following analytes: BTEX, fuel oxygenates, and lead scavengers (EDA and EDB). The revised version of this report (4522R) has been added to the EDF database and is currently available for upload into Geotracker.

Approved by:

Date:

7/9/05

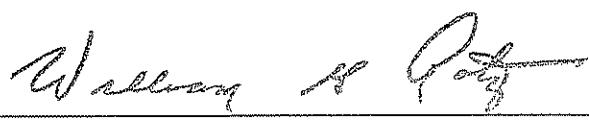
## Bace Analytical, Windsor, CA

Lab Report No.: 4522R Date: 07/09/2005

Page: 1

Project Name:	4180 MONTGOMERY	Analysis:	Total Petroleum Hydrocarbons (TPH) by GC/MS			
Project No:	421	Method:	8260TPH			
		Prep Meth:	SW5030B			
Field ID:	MW-1	Lab Samp ID:	4522R-1			
Descr/Location:	MW-1	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	1011	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)	0.040	0.050	PQL	ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene	80-120	SLSA		99%		

Approved by:

Date: 7/9/05

## Bace Analytical, Windsor, CA

Lab Report No.: 4522R Date: 07/09/2005

Page: 2

Project Name:	4180 MONTGOMERY	Analysis:	Total Petroleum Hydrocarbons (TPH) by GC/MS			
Project No:	421	Method:	8260TPH			
		Prep Meth:	SW5030B			
Field ID:	MW-2	Lab Samp ID:	4522R-2			
Descr/Location:	MW-2	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0856	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)	0.040	0.050	PQL	ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene	80-120	SLSA		97%		1

Approved by:

*Wesley A. Pott*Date: 7/9/05

## Bace Analytical, Windsor, CA

Lab Report No.: 4522R Date: 07/09/2005

Page: 3

Project Name:	4180 MONTGOMERY	Analysis:	Total Petroleum Hydrocarbons (TPH) by GC/MS			
Project No:	421	Method:	8260TPH			
		Prep Meth:	SW5030B			
Field ID:	MW-3	Lab Samp ID:	4522R-3			
Descr/Location:	MW-3	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0807	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)	0.040	0.050	PQL	ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene	80-120	SLSA		100%		1

Approved by:

*Wellman & Relyea*Date: 7/9/05

## Bace Analytical, Windsor, CA

Lab Report No.: 4522R Date: 07/09/2005

Page: 4

Project Name:	4180 MONTGOMERY	Analysis:	Total Petroleum Hydrocarbons (TPH) by GC/MS			
Project No:	421	Method:	8260TPH			
		Prep Meth:	SW5030B			
Field ID:	MW-4	Lab Samp ID:	4522R-4			
Descr/Location:	MW-4	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0934	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)	0.040	0.050 PQL		ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene	80-120	SLSA		99%		1

Approved by:

*Wallace & Petty*Date: 7/9/05

Project Name:	4180 MONTGOMERY	Analysis:	Volatile Organic Compounds by GC/MS			
Project No:	421	Method:	SW8260B			
		Prep Meth:	SW5030B			
Field ID:	MW-1	Lab Samp ID:	4522R-1			
Descr/Location:	MW-1	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	1011	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL	ND	UG/L	1
Bromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Bromodichloromethane	0.31	0.50	PQL	ND	UG/L	1
Bromoform	0.40	0.50	PQL	ND	UG/L	1
Bromomethane	0.20	0.50	PQL	ND	UG/L	1
Carbon tetrachloride	0.40	0.50	PQL	ND	UG/L	1
Chlorobenzene	0.30	0.50	PQL	ND	UG/L	1
Dibromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Chloroethane	0.35	0.50	PQL	ND	UG/L	1
Chloroform	0.33	0.50	PQL	ND	UG/L	1
Chloromethane	0.40	0.50	PQL	ND	UG/L	1
1,2-Dibromo-3-chloropropane	0.36	0.50	PQL	ND	UG/L	1
1,2-Dibromoethane	0.41	0.50	PQL	ND	UG/L	1
Dibromomethane	0.31	0.50	PQL	ND	UG/L	1
1,2-Dichlorobenzene	0.43	0.50	PQL	ND	UG/L	1
1,3-Dichlorobenzene	0.48	0.50	PQL	ND	UG/L	1
1,4-Dichlorobenzene	0.40	0.50	PQL	ND	UG/L	1
Dichlorodifluoromethane	0.36	0.50	PQL	ND	UG/L	1
1,1-Dichloroethane	0.27	0.50	PQL	ND	UG/L	1
1,2-Dichloroethane	0.35	0.50	PQL	ND	UG/L	1
1,1-Dichloroethene	0.36	0.50	PQL	ND	UG/L	1
trans-1,2-Dichloroethene	0.24	0.50	PQL	ND	UG/L	1
1,2-Dichloropropane	0.36	0.50	PQL	ND	UG/L	1
Ethylbenzene	0.24	0.50	PQL	ND	UG/L	1
Hexachlorobutadiene	0.57	1.00	PQL	ND	UG/L	1
Isopropylbenzene	0.43	0.50	PQL	ND	UG/L	1
Methylene chloride	0.22	0.50	PQL	ND	UG/L	1
Naphthalene	0.47	1.00	PQL	ND	UG/L	1
Styrene	0.41	0.50	PQL	ND	UG/L	1
1,1,1,2-Tetrachloroethane	0.38	0.50	PQL	ND	UG/L	1

Approved by:

*Wesley H. Petty*

Date: 7/9/05

Project Name:	4180 MONTGOMERY	Analysis:	Volatile Organic Compounds by GC/MS			
Project No:	421	Method:	SW8260B			
		Prep Meth:	SW5030B			
Field ID:	MW-1	Lab Samp ID:	4522R-1			
Descr/Location:	MW-1	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	1011	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
1,1,2,2-Tetrachloroethane	0.25	0.50	PQL	ND	UG/L	1
Tetrachloroethene (PCE)	0.32	0.50	PQL	121.	UG/L	1
Toluene	0.40	0.50	PQL	ND	UG/L	1
1,2,4-Trichlorobenzene	0.57	1.00	PQL	ND	UG/L	1
1,1,1-Trichloroethane	0.29	0.50	PQL	ND	UG/L	1
1,1,2-Trichloroethane	0.31	0.50	PQL	ND	UG/L	1
Trichloroethene (TCE)	0.40	0.50	PQL	ND	UG/L	1
1,2,3-Trichloropropane	0.35	0.50	PQL	ND	UG/L	1
Vinyl chloride	0.32	0.50	PQL	ND	UG/L	1
Bromobenzene	0.27	0.50	PQL	ND	UG/L	1
n-Butylbenzene	0.51	1.00	PQL	ND	UG/L	1
sec-Butylbenzene	0.49	1.00	PQL	ND	UG/L	1
tert-Butylbenzene	0.41	1.00	PQL	ND	UG/L	1
2-Chlorotoluene	0.40	0.50	PQL	ND	UG/L	1
4-Chlorotoluene	0.40	0.50	PQL	ND	UG/L	1
cis-1,2-Dichloroethene	0.34	0.50	PQL	ND	UG/L	1
1,3-Dichloropropane	0.34	0.50	PQL	ND	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.00	PQL	ND	UG/L	1
n-Propylbenzene	0.37	0.50	PQL	ND	UG/L	1
1,2,3-Trichlorobenzene	0.57	1.00	PQL	ND	UG/L	1
1,3,5-Trimethylbenzene	0.42	1.00	PQL	ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.00	PQL	ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.00	PQL	ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.00	PQL	ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL	ND	UG/L	1
1,2,3-Trimethylbenzene	0.60	1.00	PQL	ND	UG/L	1
Xylenes	0.35	0.50	PQL	ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene		86-115	SLSA	99%		1
Toluene-d8		88-110	SLSA	102%		1
Dibromofluoromethane		86-118	SLSA	98%		1

Approved by:

*Wesley & Rony*Date: 7/9/05

Project Name:	4180 MONTGOMERY	Analysis:	Volatile Organic Compounds by GC/MS			
Project No:	421	Method:	SW8260B			
		Prep Meth:	SW5030B			
Field ID:	MW-2	Lab Samp ID:	4522R-2			
Descr/Location:	MW-2	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0856	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL	ND	UG/L	1
Bromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Bromodichloromethane	0.31	0.50	PQL	ND	UG/L	1
Bromoform	0.40	0.50	PQL	ND	UG/L	1
Bromomethane	0.20	0.50	PQL	ND	UG/L	1
Carbon tetrachloride	0.40	0.50	PQL	ND	UG/L	1
Chlorobenzene	0.30	0.50	PQL	ND	UG/L	1
Dibromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Chloroethane	0.35	0.50	PQL	ND	UG/L	1
Chloroform	0.33	0.50	PQL	ND	UG/L	1
Chloromethane	0.40	0.50	PQL	ND	UG/L	1
1,2-Dibromo-3-chloropropane	0.36	0.50	PQL	ND	UG/L	1
1,2-Dibromoethane	0.41	0.50	PQL	ND	UG/L	1
Dibromomethane	0.31	0.50	PQL	ND	UG/L	1
1,2-Dichlorobenzene	0.43	0.50	PQL	ND	UG/L	1
1,3-Dichlorobenzene	0.48	0.50	PQL	ND	UG/L	1
1,4-Dichlorobenzene	0.40	0.50	PQL	ND	UG/L	1
Dichlorodifluoromethane	0.36	0.50	PQL	ND	UG/L	1
1,1-Dichloroethane	0.27	0.50	PQL	ND	UG/L	1
1,2-Dichloroethane	0.35	0.50	PQL	ND	UG/L	1
1,1-Dichloroethene	0.36	0.50	PQL	ND	UG/L	1
trans-1,2-Dichloroethene	0.24	0.50	PQL	ND	UG/L	1
1,2-Dichloropropane	0.36	0.50	PQL	ND	UG/L	1
Ethylbenzene	0.24	0.50	PQL	ND	UG/L	1
Hexachlorobutadiene	0.57	1.00	PQL	ND	UG/L	1
Isopropylbenzene	0.43	0.50	PQL	ND	UG/L	1
Methylene chloride	0.22	0.50	PQL	ND	UG/L	1
Naphthalene	0.47	1.00	PQL	ND	UG/L	1
Styrene	0.41	0.50	PQL	ND	UG/L	1
1,1,1,2-Tetrachloroethane	0.38	0.50	PQL	ND	UG/L	1

Approved by:

*Wesley H. Raby*Date: 7/9/05

Project Name:	4180 MONTGOMERY	Analysis:	Volatile Organic Compounds by GC/MS			
Project No:	421	Method:	SW8260B			
		Prep Meth:	SW5030B			
Field ID:	MW-2	Lab Samp ID:	4522R-2			
Descr/Location:	MW-2	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0856	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
1,1,2,2-Tetrachloroethane	0.25	0.50	PQL	ND	UG/L	1
Tetrachloroethene (PCE)	0.32	0.50	PQL	73.0	UG/L	1
Toluene	0.40	0.50	PQL	ND	UG/L	1
1,2,4-Trichlorobenzene	0.57	1.00	PQL	ND	UG/L	1
1,1,1-Trichloroethane	0.29	0.50	PQL	ND	UG/L	1
1,1,2-Trichloroethane	0.31	0.50	PQL	ND	UG/L	1
Trichloroethene (TCE)	0.40	0.50	PQL	ND	UG/L	1
1,2,3-Trichloropropane	0.35	0.50	PQL	ND	UG/L	1
Vinyl chloride	0.32	0.50	PQL	ND	UG/L	1
Bromobenzene	0.27	0.50	PQL	ND	UG/L	1
n-Butylbenzene	0.51	1.00	PQL	ND	UG/L	1
sec-Butylbenzene	0.49	1.00	PQL	ND	UG/L	1
tert-Butylbenzene	0.41	1.00	PQL	ND	UG/L	1
2-Chlorotoluene	0.40	0.50	PQL	ND	UG/L	1
4-Chlorotoluene	0.40	0.50	PQL	ND	UG/L	1
cis-1,2-Dichloroethene	0.34	0.50	PQL	ND	UG/L	1
1,3-Dichloropropane	0.34	0.50	PQL	ND	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.00	PQL	ND	UG/L	1
n-Propylbenzene	0.37	0.50	PQL	ND	UG/L	1
1,2,3-Trichlorobenzene	0.57	1.00	PQL	ND	UG/L	1
1,3,5-Trimethylbenzene	0.42	1.00	PQL	ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.00	PQL	ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.00	PQL	ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.00	PQL	ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL	ND	UG/L	1
1,2,3-Trimethylbenzene	0.60	1.00	PQL	ND	UG/L	1
Xylenes	0.35	0.50	PQL	ND	UG/L	1
<b>SURROGATE AND INTERNAL STANDARD RECOVERIES:</b>						
4-Bromofluorobenzene		86-115	SLSA		97%	1
Toluene-d8		88-110	SLSA		102%	1
Dibromofluoromethane		86-118	SLSA		98%	1

Approved by:

*Walter H. Peltz*Date: 7/9/05

Project Name:	4180 MONTGOMERY	Analysis:	Volatile Organic Compounds by GC/MS			
Project No:	421	Method:	SW8260B			
		Prep Meth:	SW5030B			
Field ID:	MW-3	Lab Samp ID:	4522R-3			
Descr/Location:	MW-3	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0807	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL	ND	UG/L	1
Bromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Bromodichloromethane	0.31	0.50	PQL	ND	UG/L	1
Bromoform	0.40	0.50	PQL	ND	UG/L	1
Bromomethane	0.20	0.50	PQL	ND	UG/L	1
Carbon tetrachloride	0.40	0.50	PQL	ND	UG/L	1
Chlorobenzene	0.30	0.50	PQL	ND	UG/L	1
Dibromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Chloroethane	0.35	0.50	PQL	ND	UG/L	1
Chloroform	0.33	0.50	PQL	ND	UG/L	1
Chloromethane	0.40	0.50	PQL	ND	UG/L	1
1,2-Dibromo-3-chloropropane	0.36	0.50	PQL	ND	UG/L	1
1,2-Dibromoethane	0.41	0.50	PQL	ND	UG/L	1
Dibromomethane	0.31	0.50	PQL	ND	UG/L	1
1,2-Dichlorobenzene	0.43	0.50	PQL	ND	UG/L	1
1,3-Dichlorobenzene	0.48	0.50	PQL	ND	UG/L	1
1,4-Dichlorobenzene	0.40	0.50	PQL	ND	UG/L	1
Dichlorodifluoromethane	0.36	0.50	PQL	ND	UG/L	1
1,1-Dichloroethane	0.27	0.50	PQL	ND	UG/L	1
1,2-Dichloroethane	0.35	0.50	PQL	ND	UG/L	1
1,1-Dichloroethene	0.36	0.50	PQL	ND	UG/L	1
trans-1,2-Dichloroethene	0.24	0.50	PQL	ND	UG/L	1
1,2-Dichloropropane	0.36	0.50	PQL	ND	UG/L	1
Ethylbenzene	0.24	0.50	PQL	ND	UG/L	1
Hexachlorobutadiene	0.57	1.00	PQL	ND	UG/L	1
Isopropylbenzene	0.43	0.50	PQL	ND	UG/L	1
Methylene chloride	0.22	0.50	PQL	ND	UG/L	1
Naphthalene	0.47	1.00	PQL	ND	UG/L	1
Styrene	0.41	0.50	PQL	ND	UG/L	1
1,1,1,2-Tetrachloroethane	0.38	0.50	PQL	ND	UG/L	1

Approved by:

*Wesley A. Pote*

Date:

*7/9/05*

Project Name:	4180 MONTGOMERY	Analysis:	Volatile Organic Compounds by GC/MS			
Project No:	421	Method:	SW8260B			
		Prep Meth:	SW5030B			
Field ID:	MW-3	Lab Samp ID:	4522R-3			
Descr/Location:	MW-3	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0807	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
1,1,2,2-Tetrachloroethane	0.25	0.50	PQL	ND	UG/L	1
Tetrachloroethene (PCE)	0.32	0.50	PQL	212	UG/L	1
Toluene	0.40	0.50	PQL	ND	UG/L	1
1,2,4-Trichlorobenzene	0.57	1.00	PQL	ND	UG/L	1
1,1,1-Trichloroethane	0.29	0.50	PQL	ND	UG/L	1
1,1,2-Trichloroethane	0.31	0.50	PQL	ND	UG/L	1
Trichloroethene (TCE)	0.40	0.50	PQL	ND	UG/L	1
1,2,3-Trichloropropane	0.35	0.50	PQL	ND	UG/L	1
Vinyl chloride	0.32	0.50	PQL	ND	UG/L	1
Bromobenzene	0.27	0.50	PQL	ND	UG/L	1
n-Butylbenzene	0.51	1.00	PQL	ND	UG/L	1
sec-Butylbenzene	0.49	1.00	PQL	ND	UG/L	1
tert-Butylbenzene	0.41	1.00	PQL	ND	UG/L	1
2-Chlorotoluene	0.40	0.50	PQL	ND	UG/L	1
4-Chlorotoluene	0.40	0.50	PQL	ND	UG/L	1
cis-1,2-Dichloroethene	0.34	0.50	PQL	ND	UG/L	1
1,3-Dichloropropane	0.34	0.50	PQL	ND	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.00	PQL	ND	UG/L	1
n-Propylbenzene	0.37	0.50	PQL	ND	UG/L	1
1,2,3-Trichlorobenzene	0.57	1.00	PQL	ND	UG/L	1
1,3,5-Trimethylbenzene	0.42	1.00	PQL	ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.00	PQL	ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.00	PQL	ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.00	PQL	ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL	ND	UG/L	1
1,2,3-Trimethylbenzene	0.60	1.00	PQL	ND	UG/L	1
Xylenes	0.35	0.50	PQL	ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene		86-115	SLSA	100%		1
Toluene-d8		88-110	SLSA	99%		1
Dibromofluoromethane		86-118	SLSA	100%		1

Approved by:

*Wesley R. Pott*Date: 7/9/05

Project Name:	4180 MONTGOMERY	Analysis:	Volatile Organic Compounds by GC/MS			
Project No:	421	Method:	SW8260B			
		Prep Meth:	SW5030B			
Field ID:	MW-4	Lab Samp ID:	4522R-4			
Descr/Location:	MW-4	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0934	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL	ND	UG/L	1
Bromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Bromodichloromethane	0.31	0.50	PQL	ND	UG/L	1
Bromoform	0.40	0.50	PQL	ND	UG/L	1
Bromomethane	0.20	0.50	PQL	ND	UG/L	1
Carbon tetrachloride	0.40	0.50	PQL	ND	UG/L	1
Chlorobenzene	0.30	0.50	PQL	ND	UG/L	1
Dibromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Chloroethane	0.35	0.50	PQL	ND	UG/L	1
Chloroform	0.33	0.50	PQL	ND	UG/L	1
Chloromethane	0.40	0.50	PQL	ND	UG/L	1
1,2-Dibromo-3-chloropropane	0.36	0.50	PQL	ND	UG/L	1
1,2-Dibromoethane	0.41	0.50	PQL	ND	UG/L	1
Dibromomethane	0.31	0.50	PQL	ND	UG/L	1
1,2-Dichlorobenzene	0.43	0.50	PQL	ND	UG/L	1
1,3-Dichlorobenzene	0.48	0.50	PQL	ND	UG/L	1
1,4-Dichlorobenzene	0.40	0.50	PQL	ND	UG/L	1
Dichlorodifluoromethane	0.36	0.50	PQL	ND	UG/L	1
1,1-Dichloroethane	0.27	0.50	PQL	ND	UG/L	1
1,2-Dichloroethane	0.35	0.50	PQL	ND	UG/L	1
1,1-Dichloroethene	0.36	0.50	PQL	ND	UG/L	1
trans-1,2-Dichloroethene	0.24	0.50	PQL	ND	UG/L	1
1,2-Dichloropropane	0.36	0.50	PQL	ND	UG/L	1
Ethylbenzene	0.24	0.50	PQL	ND	UG/L	1
Hexachlorobutadiene	0.57	1.00	PQL	ND	UG/L	1
Isopropylbenzene	0.43	0.50	PQL	ND	UG/L	1
Methylene chloride	0.22	0.50	PQL	ND	UG/L	1
Naphthalene	0.47	1.00	PQL	ND	UG/L	1
Styrene	0.41	0.50	PQL	ND	UG/L	1
1,1,1,2-Tetrachloroethane	0.38	0.50	PQL	ND	UG/L	1

Approved by:

*Wellman & Potts*

Date: 7/9/05

Project Name:	4180 MONTGOMERY	Analysis:	Volatile Organic Compounds by GC/MS			
Project No:	421	Method:	SW8260B			
		Prep Meth:	SW5030B			
Field ID:	MW-4	Lab Samp ID:	4522R-4			
Descr/Location:	MW-4	Rec'd Date:	01/27/2005			
Sample Date:	01/27/2005	Prep Date:	01/28/2005			
Sample Time:	0934	Analysis Date:	01/28/2005			
Matrix:	Groundwater	QC Batch:	20050128C			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
1,1,2,2-Tetrachloroethane	0.25	0.50	PQL	ND	UG/L	1
Tetrachloroethene (PCE)	0.32	0.50	PQL	59.2	UG/L	1
Toluene	0.40	0.50	PQL	ND	UG/L	1
1,2,4-Trichlorobenzene	0.57	1.00	PQL	ND	UG/L	1
1,1,1-Trichloroethane	0.29	0.50	PQL	ND	UG/L	1
1,1,2-Trichloroethane	0.31	0.50	PQL	ND	UG/L	1
Trichloroethene (TCE)	0.40	0.50	PQL	ND	UG/L	1
1,2,3-Trichloropropane	0.35	0.50	PQL	ND	UG/L	1
Vinyl chloride	0.32	0.50	PQL	ND	UG/L	1
Bromobenzene	0.27	0.50	PQL	ND	UG/L	1
n-Butylbenzene	0.51	1.00	PQL	ND	UG/L	1
sec-Butylbenzene	0.49	1.00	PQL	ND	UG/L	1
tert-Butylbenzene	0.41	1.00	PQL	ND	UG/L	1
2-Chlorotoluene	0.40	0.50	PQL	ND	UG/L	1
4-Chlorotoluene	0.40	0.50	PQL	ND	UG/L	1
cis-1,2-Dichloroethene	0.34	0.50	PQL	ND	UG/L	1
1,3-Dichloropropane	0.34	0.50	PQL	ND	UG/L	1
Methyl-tert-butyl ether (MTBE)	0.38	1.00	PQL	ND	UG/L	1
n-Propylbenzene	0.37	0.50	PQL	ND	UG/L	1
1,2,3-Trichlorobenzene	0.57	1.00	PQL	ND	UG/L	1
1,3,5-Trimethylbenzene	0.42	1.00	PQL	ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.00	PQL	ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.00	PQL	ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.00	PQL	ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL	ND	UG/L	1
1,2,3-Trimethylbenzene	0.60	1.00	PQL	ND	UG/L	1
Xylenes	0.35	0.50	PQL	ND	UG/L	1
<b>SURROGATE AND INTERNAL STANDARD RECOVERIES:</b>						
4-Bromofluorobenzene		86-115	SLSA	99%		1
Toluene-d8		88-110	SLSA	100%		1
Dibromofluoromethane		86-118	SLSA	97%		1

Approved by:

*Wallace A. Pott*

Date:

*7/9/05*

QA/QC Report  
Method Blank Summary

Bace Analytical, Windsor, CA

Lab Report No.: 4522R Date: 07/09/2005

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QC Batch:	20050128C	Analysis:	Total Petroleum Hydrocarbons (TPH) by				
Matrix:	Groundwater	Method:	8260TPH				
Lab Samp ID:	4522RMB	Prep Meth:	SW5030B				
Analysis Date:	01/28/2005	Prep Date:	01/28/2005				
Basis:	Not Filtered	Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc	Dil
Gasoline Range Organics (C5-C12)	0.04	0.05	PQL	ND	MG/L	1	
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene	80-120	SLSA		103%			1

**QA/QC Report**  
**Method Blank Summary**

Bace Analytical, Windsor, CA

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QC Batch:	20050128C	Analysis:	Volatile Organic Compounds by GC/MS			
Matrix:	Groundwater	Method:	SW8260B			
Lab Samp ID:	4522RMB	Prep Meth:	SW5030B			
Analysis Date:	01/28/2005	Prep Date:	01/28/2005			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Benzene	0.27	0.50	PQL	ND	UG/L	1
Bromodichloromethane	0.31	0.50	PQL	ND	UG/L	1
Bromoform	0.40	0.50	PQL	ND	UG/L	1
Bromomethane	0.20	0.50	PQL	ND	UG/L	1
Carbon tetrachloride	0.40	0.50	PQL	ND	UG/L	1
Chlorobenzene	0.30	0.50	PQL	ND	UG/L	1
Dibromochloromethane	0.43	0.50	PQL	ND	UG/L	1
Chloroethane	0.35	0.50	PQL	ND	UG/L	1
Chloroform	0.33	0.50	PQL	ND	UG/L	1
Chloromethane	0.40	0.50	PQL	ND	UG/L	1
1,2-Dibromo-3-chloropropane	0.36	0.50	PQL	ND	UG/L	1
1,2-Dibromoethane	0.41	0.50	PQL	ND	UG/L	1
Dibromomethane	0.31	0.50	PQL	ND	UG/L	1
1,2-Dichlorobenzene	0.43	0.50	PQL	ND	UG/L	1
1,3-Dichlorobenzene	0.48	0.50	PQL	ND	UG/L	1
1,4-Dichlorobenzene	0.40	0.50	PQL	ND	UG/L	1
Dichlorodifluoromethane	0.36	0.50	PQL	ND	UG/L	1
1,1-Dichloroethane	0.27	0.50	PQL	ND	UG/L	1
1,2-Dichloroethane	0.35	0.50	PQL	ND	UG/L	1
1,1-Dichloroethene	0.36	0.50	PQL	ND	UG/L	1
trans-1,2-Dichloroethene	0.24	0.50	PQL	ND	UG/L	1
1,2-Dichloropropane	0.36	0.50	PQL	ND	UG/L	1
Ethylbenzene	0.24	0.50	PQL	ND	UG/L	1
Hexachlorobutadiene	0.57	1.00	PQL	ND	UG/L	1
Isopropylbenzene	0.43	0.50	PQL	ND	UG/L	1
Methylene chloride	0.22	0.50	PQL	ND	UG/L	1
Naphthalene	0.47	1.00	PQL	ND	UG/L	1
Styrene	0.41	0.50	PQL	ND	UG/L	1
1,1,1,2-Tetrachloroethane	0.38	0.50	PQL	ND	UG/L	1
1,1,2,2-Tetrachloroethane	0.25	0.50	PQL	ND	UG/L	1

**QA/QC Report**  
**Method Blank Summary**

Bace Analytical, Windsor, CA

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QC Batch:	20050128C	Analysis: Volatile Organic Compounds by GC/MS					
Matrix:	Groundwater	Method: SW8260B					
Lab Samp ID:	4522RMB	Prep Meth: SW5030B					
Analysis Date:	01/28/2005	Prep Date: 01/28/2005					
Basis:	Not Filtered	Notes:					
Analyte		Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Tetrachloroethene (PCE)		0.32	0.50	PQL	ND	UG/L	1
Toluene		0.40	0.50	PQL	ND	UG/L	1
1,2,4-Trichlorobenzene		0.57	1.00	PQL	ND	UG/L	1
1,1,1-Trichloroethane		0.29	0.50	PQL	ND	UG/L	1
1,1,2-Trichloroethane		0.31	0.50	PQL	ND	UG/L	1
Trichloroethene (TCE)		0.40	0.50	PQL	ND	UG/L	1
1,2,3-Trichloropropane		0.35	0.50	PQL	ND	UG/L	1
Vinyl chloride		0.32	0.50	PQL	ND	UG/L	1
Bromobenzene		0.27	0.50	PQL	ND	UG/L	1
n-Butylbenzene		0.51	1.00	PQL	ND	UG/L	1
sec-Butylbenzene		0.49	1.00	PQL	ND	UG/L	1
tert-Butylbenzene		0.41	1.00	PQL	ND	UG/L	1
2-Chlorotoluene		0.40	0.50	PQL	ND	UG/L	1
4-Chlorotoluene		0.40	0.50	PQL	ND	UG/L	1
cis-1,2-Dichloroethene		0.34	0.50	PQL	ND	UG/L	1
1,3-Dichloropropane		0.34	0.50	PQL	ND	UG/L	1
Methyl-tert-butyl ether (MTBE)		0.38	1.00	PQL	ND	UG/L	1
n-Propylbenzene		0.37	0.50	PQL	ND	UG/L	1
1,2,3-Trichlorobenzene		0.57	1.00	PQL	ND	UG/L	1
1,3,5-Trimethylbenzene		0.42	1.00	PQL	ND	UG/L	1
Di-isopropyl ether (DIPE)		0.37	1.00	PQL	ND	UG/L	1
Ethyl tert-butyl ether (ETBE)		0.30	1.00	PQL	ND	UG/L	1
tert-Amyl methyl ether (TAME)		0.26	1.00	PQL	ND	UG/L	1
tert-Butyl alcohol (TBA)		2.4	10.	PQL	ND	UG/L	1
1,2,3-Trimethylbenzene		0.60	1.00	PQL	ND	UG/L	1
Xylenes		0.35	0.50	PQL	ND	UG/L	1
<b>SURROGATE AND INTERNAL STANDARD RECOVERIES:</b>							
4-Bromofluorobenzene		86-115	SLSA		103%		1
Toluene-d8		88-110	SLSA		101%		1
Dibromofluoromethane		86-118	SLSA		99%		1

**QA/QC Report**  
**Matrix Spike/Duplicate Matrix Spike Summary**

Bace Analytical, Windsor, CA

Lab Report No.: 4522R Date: 07/09/2005

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QC Batch: 20050128C  
 Matrix: Groundwater  
 Lab Samp ID: 4522RMS  
 Basis: Not Filtered

Analyte	Analysis Method	Spike Level DMS		Sample Result	Spike Result MS	Spike Result DMS	Units	% Recoveries MS DMS RPD		Acceptance Criteria % Rec	RPD
		MS	DMS					MS	DMS		
Gasoline Range Organics (C5-C12)	8260TPH	0.40	0.40	ND	0.39	0.36	MGL	97.5	90.0	8.0	130-70 MSA
1,1-Dichloroethene	SW8260B	10.0	10.0	ND	10.8	10.7	UG/L	108	107	0.93	145-61 MSA
Benzene	SW8260B	10.0	10.0	ND	10.1	10.2	UG/L	101	102	0.99	127-76 MSA
Chlorobenzene	SW8260B	10.0	10.0	ND	11.7	11.4	UG/L	117	114	2.6	130-75 MSA
Toluene	SW8260B	10.0	10.0	ND	10.4	10.3	UG/L	104	103	0.97	125-76 MSA
Trichloroethene (TCE)	SW8260B	10.0	10.0	ND	10.2	10.1	UG/L	102	101	0.99	120-71 MSA
4-Bromofluorobenzene	8260TPH	100.	100.	101.	101.	104.	PERCENT	101	104	2.9	120-80 SLSA
4-Bromofluorobenzene	SW8260B	100.	100.	101.	103.	103.	PERCENT	103	103	0.00	115-86 SLSA
Dibromoformmethane	SW8260B	100.	100.	97.	99.	96.	PERCENT	99.0	96.0	3.1	118-86 SLSA
Toluene-d8	SW8260B	100.	100.	100.	99.	100.	PERCENT	99.0	100	1.0	110-88 SLSA

